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Docket Number 27726/97275

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[Page 2 of 2]

Number 2 of 2

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FEE TRANSMITTAL
for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 200.00

Complete if Known

Application Number	
Filing Date	
First Named Inventor	John D. Bishop
Examiner Name	
Art Unit	
Attorney Docket No.	27726/97275

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☐ Charge fee(s) indicated below ☐ Credit any overpayments☒ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	\$160.00

SUBTOTAL (1) (\$ 160.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-20** =	X	
Independent Claims	-3** =	X	
Multiple Dependent			

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)**3. ADDITIONAL FEES**

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	\$40.00
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 40.00

SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	Grant H. Peters	Registration No. (Attorney/Agent)	35,977	Telephone	312/357-1313
Signature		Date	9/1/04		

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PROVISIONAL PATENT APPLICATION

of

JOHN D. BISHOP
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and
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for

A BEVERAGE MAKING APPARATUS AND
METHOD USING LOOSE BEVERAGE SUBSTANCE

Attorney Docket No. 27726/97275

**A BEVERAGE MAKING APPARATUS AND
METHOD USING LOOSE BEVERAGE SUBSTANCE**

BACKGROUND

[0001] A variety of brewing apparatus have been developed to combine heated water with a brewing substance such as ground coffee or tea material in order to infuse the material and produce a brewed beverage. There are many ways to combine the water with the brewing substance.

[0002] One way of brewing a beverage is to encapsulate the brewing substance in a filter material. The brewing substance in the filter material provides a convenient package for handling a predetermined quantity of brewing substance. The filter material provides a package or container for the brewing substance. This package allows the brewing substance to be handled prior to brewing and after brewing without complication or mess.

[0003] Such brewing substances pre-packaged in filter material are referred to as “pods” or “sachets.” Pods can be compressed while packaging in the filter material or left in a generally loose condition. Pods are typically circularly shaped and have a somewhat flattened configuration. Thus, pods often are provided in the shape of a disc or puck. Pods generally range in a size from approximately 45 mm to 60 mm and contain approximately 9-11 grams of brewing substance. The typical pod is used to produce approximately 8 ounces of brewed beverage. As a result, pods are generally used in conjunction with single-serve brewers (*i.e.*, one or two cup brewers) rather than the larger, multi-serve brewers.

[0004] Although convenient, pod use in single-serve brewers may be less desirable in some cases. For example, because the pods are prepackaged by a pod manufacturer, the selection of brewing substances is limited to the pod manufacturer’s selection. As a result, a consumer or user may not be able to use his/her favorite brewing substance when utilizing a prepackaged pod. Similarly, because the pods are prepackaged, varying the strength of the resultant beverage may be accomplished by increasing or decreasing the amount of brewing water delivered to the brewing substance or the pattern of delivering water to the brewing substances.

[0005] Uniform flavor extraction from the brewing material may be more difficult to achieve with a pod. Brewing substance is confined within the pod and generally is not free to

agitate in the brewing liquid. Instead, the brewing liquid tends to pass directly from the top of the pod to the bottom of the pod, collecting solubles as it passes through. This vertical flow pattern through the pod may result in some areas of the brewing substance being over extracted and other areas being under extracted. Accordingly, the flavor of the resulting beverage may be affected due the non-uniform extraction of solubles, particles and other flavor characteristics from the particles of brewing substance.

[0006] In some instances, access to prepackaged pods is limited due, in part, to their proprietary nature (*i.e.*, certain prepackaged pods are suitable for use in a particular single-serving brewer) and their associated limited distribution. For example, some brands of prepackaged pods associated with the more expensive single-serving brewers may only be purchased from high-end department stores or mail/Internet ordering.

[0007] It would be desirable to provide some apparatus and method of selective containment of the brewing substance used in a brewer.

[0008] It would be desirable to provide the ability to allow a user to select the brewing substance used in a brewer.

[0009] It would be desirable to provide an ability to adjust the quantity of brewing substance used in a brewer.

DESCRIPTION OF THE DRAWINGS

[0010] The organization and manner of the structure and function of the disclosure, together with the further objects and advantages thereof, may be understood by reference to the following description taken in connection with the accompanying drawings, and in which:

[0011] FIG. 1. is a perspective view of an embodiment of a brewer for use with a customized pod as set forth in the present disclosure;

[0012] FIG. 2 is an enlarged partial fragmentary cross-section side elevation view taken along 2-2 in FIG. 1;

[0013] FIG. 3 is a view of a brewing substance holder removed from the brewer of FIG. 1;

[0014] FIGS. 4-6 are perspective side views of a reusable pod in the form of an infusion container as set forth in the present disclosure;

[0015] FIGS. 7-8 are perspective views of another reusable pod in the form of a reusable purse-shaped container as set forth in the present disclosure;

[0016] FIG. 9 is a perspective view of a disposable customized pod having a cupcake filter shape as set forth in the present disclosure;

[0017] FIGS. 10-11 are side views of a disposable customized pod having a twist-top pouch shape as set forth in the present disclosure;

[0018] FIG. 12 is a side view of a tape of detachable disposable customized pods as set forth in the present disclosure;

[0019] FIG. 13 is another embodiment of a reusable infusion container system generally similar to that as shown in FIGS. 2 and 3 showing a cross section of a holder and including a removable insert and a removable cover;

[0020] FIG. 14 is a top perspective view showing the cover removed from the holder;

[0021] FIG. 15 is an enlarged partial fragmentary perspective view showing positioning of the holder in relation to a brewer such as that shown in FIG. 1;

[0022] FIG. 16 is a perspective view of another embodiment of an infusion container for use with a holder as shown, showing a cover removed from a base portion containing a brewing substance;

[0023] FIG. 17 is a perspective view showing placement of the infusion container of FIG. 16 into a brewing holder;

[0024] FIG. 18 is a perspective view of another embodiment of an infusion container including a hinged cover displaced from a corresponding base and including a locking or securing device; and

[0025] FIG. 19 is a perspective view showing placement of the infusion container in FIG. 18 within a holder.

DETAILED DESCRIPTION

[0026] While the present disclosure may be susceptible to embodiment in different forms, there is shown in the drawings, and will be described herein in detail, one or more embodiments with the understanding that the present description is to be considered an exemplification of the principles of the disclosure and is not intended to be exhaustive or to

limit the disclosure to the details of construction and the arrangements of components set forth in the following description or illustrated in the drawings.

[0027] In general, a customized pod for use in a brewer is disclosed. A customized pod for use in a single-serving brewer is disclosed. The customized pod may be configured in one of many suitable configurations adapted to enable substantial containment of a brewing substance while at the same time, allowing brewing substance selection and accommodating varying amounts of the selected brewing substance. Although described for use in a single-serving single brewer, it is contemplated that the customized pods described herein may also be utilized with other types of brewing devices, for example, with a French-press or plunger-type beverage maker.

[0028] As shown in FIG. 1, a single-serving brewer 20 includes a body 22, a base 24 and an upper portion 26. The upper portion 26 is configured to be positioned above a container such as a cup 28 for dispensing the brewed beverage into the cup 28. It should be noted that many different configurations of the single-serving brewers 20 can be utilized in conjunction with the various embodiments of the customized pod described in this disclosure. For example, in addition to the single-server brewer manufactured by Bunn and described herein, single-serving brewers manufactured by Black & Decker, Krups, Home Café, Hamilton Beach, Mr. Coffee, Melitta, Senseo, Flavia, Keurig and Nespresso, to name a few, can be utilized in conjunction with the customized pods.

[0029] Terms including beverage, beverage making and brewing as used herein are intended to be broadly defined as including but not limited to the brewing of coffee, tea, herbs and any other brewed beverage. This broad interpretation is also intended to include, but is not limited to any process of infusing, steeping, reconstituting, diluting, dissolving, saturating or passing a liquid through or otherwise mixing or combining a beverage substance with a liquid such as water without a limitation to the temperature of such liquid unless specified. This broad interpretation is also intended to include, but is not limited to beverage substances such as ground coffee, tea, herbs, liquid beverage concentrate, powdered beverage concentrate, freeze dried coffee or other beverage concentrates, to obtain a desired beverage or other food.

[0030] While a limited number of embodiments of the “customized pod” are described herein, it is contemplated that any form of beverage brewing substance container

that substantially contains the brewing substance while allowing brewing substance selection, may be used. It is further contemplated that the present customized pod could utilize other concentrates such as freeze dried concentrates, gel, liquid, powder or any other form of concentrate which will operate with the disclosed customized pod as well as equivalents thereof and any modifications which might be required to modify the customized pod to be used with such other substances, if necessary.

[0031] FIG. 2 shows a section of the upper portion 26 of the single-serving brewer 20, taken along cross-sectional line 2-2 in FIG. 1. In FIG. 2, a holder 30 is shown attached to a mounting portion 32 of the upper portion 26. The holder 30 has a drawer-like configuration adapted to retain a customized pod in a predetermined position in the single-serving brewer. The holder 30 includes a wall 33 which defines a cavity 34 therein. With further reference to FIG. 3, the wall 33 defines an upper rim 36. The upper rim 36 defines an entry opening 38. Although shown as having a drawer-like configuration, it is contemplated that any suitably configured holder may be used to retain the customized pod described herein.

[0032] In addition, the holder 30 is configured with a floor 70 positioned in a lower portion of the holder 30 bounded by the wall 33. Upstanding walls or ribs 72 project upwardly from the floor 70 towards the cavity 34 to enable pooling and mixing of the brewing beverage prior to dispensing into the cup 28. A drain 74 formed in a lower portion of the floor 70, facilitates the draining of brewed beverage from the cavity 34.

[0033] A support structure 73, adapted to retain the customized pod above the floor 70 of the holder 30, is provided overlying the ribs 72. Although preferably configured as an open mesh structure using woven metal strands, other configurations of the support structure 73 having other materials are contemplated by this disclosure. The support structure 73 may be either fixedly attached or removably attached to an inside surface of the holder 30.

[0034] When the holder 30 containing the customized pod is inserted into the upper portion 26, it engages with the mounting portion 32. As illustrated, the mounting portion 32 includes one or more ramped, or inclined, surfaces with flat surfaces disposed therebetween, sized to receive the wall 33 when the holder 30 is inserted into the upper portion 26. Additionally, the mounting portion 32 may include a release assembly 60 to selectively retain

the holder 30 and ensure proper positioning of the customized pod during the brewing process.

[0035] As mentioned hereinabove, the customized pod may be configured in one of many suitable configurations adapted to enable substantial containment of a brewing substance while at the same time, allowing brewing substance selection and accommodating varying amounts of the selected brewing substance. Additionally, the customized pod may be constructed using one of many suitable materials such as a reusable synthetic or metallic material or a disposable filter paper material, to name a few.

[0036] For example, the customized pod may be configured as a refillable infusion container constructed of a metallic material such as gold mesh and sized and dimensioned to be received in the cavity 34 of the holder 30. FIG. 4 is a perspective view of a refillable infusion container 200 according to an embodiment of the invention. In one embodiment, the refillable infusion container 200 includes a container portion 202 coupled to a removable spring loaded handle 204. In another embodiment, the container portion 202 is provided without a handle 204. The container portion 202 includes a first container half 206 having a first rim 208 radially disposed around the edge of the first container half 206, and a second container half 210 having a second rim 212 radially disposed around the edge of the second container half 210. The handle 204 is preferably formed by a first outer arm 214 and a second outer arm 216 pivotally mounted to a V-shaped spring loaded actuating arm 218. A first end of the first outer arm 214 is pivotally coupled to a first end of the V-shaped spring loaded actuating arm 218. Similarly, a first end of the second outer arm 216 is pivotally coupled to a second end of the V-shaped spring loaded actuating arm 218. The first outer arm 214 includes a first flange 220 disposed proximate to the second end of the first outer arm 214, and the second outer arm 216 includes a second flange 222 disposed proximate to the second end of the second outer arm 216. A pivot pin 224 inserted through a first aperture in the first flange 220 and a second aperture in the second flange 222 pivotally couples the first outer arm 214 to the second outer arm 216.

[0037] The second end of the first outer arm 214 is removably attached to a first rim portion 226 of the first rim 208 via a first bracket 230 mounted to the first rim portion 226. Similarly, the second end of the second outer arm 216 is removably attached to a second rim portion 228 of the second rim 212 via a second bracket 232 mounted to the second rim

portion 228. The first rim portion 226 is proximate to the second rim portion 228 when the refillable infusion container 200 is biased into the closed position.

[0038] Upon compression of the V-shaped spring loaded actuating arm 218, near the area of the first ends of the first and second outer arms 214, 216, the first and second container halves 206, 210 are urged apart. The first rim portion 226 is no longer proximate to the second rim portion 228. Any suitable brewing substance, in any suitable quantity may then be deposited within the container portion 202 (*see*, FIG. 5). Upon closing the first and second container halves 206, 210, the container portion 202 may be latched via a first latch 240 and a second latch 242 (not shown), and the spring loaded handle 204 removed. The “customized pod” in the form the latched container portion 202 may then be placed in the cavity 34 (*see*, FIG. 6). Although removable, it is contemplated that the spring loaded handle 204 may be non-removable and may include a non-heat conductive material (*e.g.*, high temperature plastic, suitable metal, or ceramic material) adapted for grasping during removal of the refillable infusion container 200 from the single-serving brewer 20. The embodiment using the non-removable handle included sufficient gasketing and sealing around the handle to maintain the desired closure of the brewing chamber during the brewing process.

[0039] The refillable infusion container 200 may be constructed of any suitable metallic material including, but not limited to gold mesh, enabling suitable brewing liquid flow therethrough and suitable durability for repeated use and reuse. In addition, although preferably puck-shaped, the refillable infusion container 200 may be configured in one of any number of suitable shapes sized to fit within the cavity 34, including, but not limited to, a dome shape, a spherical shape, an elliptical shape, a basket shape or a conical shape, to name a few. Further, although the removable spring loaded handle 204 enables access to the interior of the container portion 202, other methods to access the interior of the container portion 202 are contemplated. For example, the first and second container halves 204, 206 may be threadedly coupled or hingedly coupled in a clam shell fashion, thereby precluding the need for access via operation of the spring loaded handle 204.

[0040] The container portion may also be configured as a reusable container 250, utilizing a resilient metallic porous material or a spring loaded metallic porous material. As illustrated by FIGS. 7 and 8, the reusable container 250 may be configured as a resilient “purse-shaped” reusable pod 252 of a suitable shape and sized and dimensioned for use with

a corresponding brewer. The purse-shaped pod has a slit therein (rather than being formed by first and second container halves 206, 210). As illustrated, the interior of the purse-shaped reusable pod 252 can then be accessed by “pinching” opposing sides 254 and 256 of the resilient purse-shaped device 252 (*see*, Figs. 7 and 8).

[0041] As mentioned above herein, the customized pod may also be constructed using other types of porous materials such as a disposable filter paper material or other suitable disposable porous material. For example, FIG. 9 is a perspective view of a disposable customized pod 260 constructed of a disposable filter paper material and configured in a “cup-cake” filter shape. In the illustrated example, the disposable customized pod 260 includes a cup portion 262 having a wall 264 which defines a brewing substance holding area 266 for holding the brewing substance, which is generally similar to larger versions of this filter configuration as used in larger brewers. However, a flap portion 268 can be added to the filter, coupled to a portion of a rim 267 defined by the wall 264. Upon receiving the brewing substance in the brewing substance holding area 266, the flap portion 268 is folded over the brewing substance holding area 266. The filled, disposable customized pod 260 may then be placed in the cavity 34 (*see*, FIG. 2) for brewing. The disposable customized pod 260, therefore, provides sufficient containment for the brewing substance, while at the same time, allows the user to select the type and amount of brewing substance. Although illustrated as having a flap portion 268, it is contemplated that the disposable customized pod 260 may be configured without the flap portion 268. Further, it is also contemplated that the disposable customized pod 260 may be configured in one of any number of suitable shapes such as a cone shape, a trough shape, a pouch shape with or without a twist-top portion, etc.

[0042] The disposable customized pod may also be configured with a removable portion that is discarded after filling to reduce the amount of disposable filter paper material exposed to the brewing liquid during the brewing process. Accordingly, after the brewing substance is placed in the brewing substance holding area 266 but before the beverage is brewed, the removable portion that is to be discarded is removed.

[0043] For example, the disposable customized pod may be configured as a pouch with a twist-top having a removable portion. Referring to FIGS. 10 and 11, there is shown a disposable customized pod 270 configured as “pouch” with a twist-top 272 having a

removable portion 274. After filling with a brewing substance, the brewing substance holding area 266 can be manually twisted shut to contain the brewing substance via the twist-top 272, and the removable segment 274 removed and discarded. The filled and closed customized pod 270 can then be placed into the cavity 34 for brewing. Although manually removed by the user, it is contemplated that the removable portion 274 may be automatically removed by a suitable device of the single-serving brewer 20.

[0044] The disposable customized pod also may be configured as one of a string of detachable disposable customized pods that are adapted to be used in a customized pod making system. It is contemplated that the customized pod making system may be included in the single serving brewer 20 or it may be a stand-alone system. For example, FIG. 12 is an exemplary string of detachable disposable customized pods 300 that may be utilized in conjunction with the single serving brewer of FIG. 1.

[0045] In the illustrated example, the string of detachable disposable customized pods 300 includes four detachable disposable customized pods 302, 304, 306 and 308, however, more or less customized pods may be included. Although the detachable disposable customized pods are illustrated as having a circular “pouch” shape, other shapes, including, but not limited to, a cone shape, a puck shape, a square shape and a basket shape, are contemplated. In one embodiment, the detachable disposable customized pods 302, 304, 306 and 308 may be detached, filled with a brewing substance and placed into the single serving brewer 20 via a manual process. In another embodiment, the detachable disposable customized pods 302, 304, 306 and 308 may be detached, filled with a brewing substance and placed into the automatically the single serving brewer 20 via an automatic process. In further embodiments, it is contemplated that one or more combinations of manual and automatic steps may be utilized to detach, fill and place the detachable disposable customized pods 302, 304, 306 and 308 into the single serving brewer 20.

[0046] Additionally, manual or automatic closing or sealing of the filled detachable disposable customized pods 302, 304, 306 and 308 is contemplated. For example, upon filling the detachable disposable customized pod 302 with a brewing substance, a neck portion 301 of the detachable disposable customized pod 302 may be automatically cut and/or removed, and the remaining aperture sealed via heat, compression, suitable adhesive or by use of mechanical clamps or retainers.

[0047] Referring again to FIG. 2, in the installed position, the holder 30 is positioned with the entry opening 38 in position to receive the brewing liquid (*e.g.*, water). The entry opening 38 and cavity 34 are positioned below a sprayhead 40. Any one of the customized pods described above is held within the cavity 34. During operation, the brewing liquid 46 provided by a water delivery system of the single-serving brewer 20, enters a sprayhead area 42 defined by the sprayhead 40. The brewing liquid 46 in the sprayhead area 42 then flows through holes 44, through the entry opening 38, and into the cavity 34. Upon receipt in the cavity 34, the brewing liquid 46 mixes with the brewing substance retained by the customized pod. The brewing liquid 46, flowing through the customized pod and infusing the brewing substance contained therein, subsequently drains under pressure and gravity through the support structure 73, and into open areas defined by the upstanding ribs 72 where the soluble portions of the brewing substance with the brewing liquid are pooled and mixed. When completed, the brewed beverage drains through a drain hole 50, into the drain 70 for dispensing into the cup 28.

[0048] Further details of the configuration and operation of the single-serving brewer 20 can be found in related provisional applications entitled “Apparatus, System and Method for Infusing a Pre-Packaged Pod (Atty. Docket No. 27726-95094) filed February 9, 2004, “Apparatus System and Method for Retaining Beverage Brewing Substance” (Atty. Docket No. 27726-95093) filed February 6, 2004, and “Pod Brewer Design” (Atty. Docket No. 27726-95113) filed February 10, 2004. Additional information relating to adjustable controlling the single-serving brewer 20 can be found in a related provisional application entitled “Adjustable Volume Brewer” (Atty. Docket No. 27726-95059) filed Nov. 7, 2003, U.S. Provisional Application No. 60/518,039. Additional information related to a spray head system and method for delivering water to the brewing assembly of the single-serving brewer 20 can be found in U.S. Provisional Application entitled “Water Delivery System, Method and Apparatus” (Atty. Docket No. 27726-95058) filed November 7, 2003, U.S. Provisional Application No. 60/518,411. Additional information related to beverage making apparatus which uses loose coffee and related devices and methods of use can be found in U.S. Provisional Application entitled “A Beverage Making Apparatus and Method Using Loose Beverage Substances” (Attorney Docket No. 27726-95865) filed April 2, 2004, U.S. Provisional Application No. 60/560,033. Information about a pod holder with a removable

insert can be found in U.S. Provisional Application entitled "Pod Holder with Removable Insert" (Attorney Docket No. 27726-96741) filed May 28, 2004, U.S. Provisional Application No. 60/575,235. Each of the above-referenced applications and the materials set forth therein is incorporated herein in its entirety by reference.

[0049] As shown in FIG. 13, another embodiment of a reusable container 402 used with a pod holder 30 is defined by a pod holder insert 35 which defines a floor or base and a cover 404 which is positionable over the insert 35. The cover 404 and insert 35 define a cavity 406 or space for retaining the brewing substance 408. Water 410 flows from the outside of the cover 404 and through a mesh or foraminous portion 412 of the cover 404 flowing into the brewing substance 408. Passages 414 are provided through the insert 35 allowing coffee beverage which is extracted from the brewing substance 408 by the water 410 to flow downwardly there through. A drain 74 defined by a drain wall 73 provides a path through which beverage brewed in the cavity 406 is allowed to drain and, as a result, be dispensed from the brewer. The pod holder insert 35 is adapted to retain the brewing substance 408 above a floor 70 of the pod holder 30. A series of braces 81 are provided on an underside 83 of the insert 35. Further reference to and details relating to structure and function of the insert 35 is provided in the related application U.S. Provisional Application No. 60/575,235 which is incorporated herein by reference in its entirety.

[0050] As shown in FIG. 13, the insert 35 includes a protruding end 91 and a blade 39. The blade 39 generally extends through the drain 74 of the protruding end 91 extending beyond a rim 93 of the drain 74 to retain the insert 35 and the holder 30. The blade tends to provide a columnating or laminating flow of the beverage passing through the drain.

[0051] The cover 404 includes a rim portion 420 which retains the foraminous or mesh material 412 therein. The mesh material can be attached to the frame using a variety of methods and structures, including, by way of example but not limitation: welding, adhesives, rolling, overmolding or any other way and means to retain the mesh on the rim. With this reference to FIG. 13, a seal 422 is carried on the rim 420 for engaging in upper rim 36 of a wall 33 of the holder 30. The seal helps to reduce or prevent the flow of liquid out of the cavity and therefore tends to direct the flow of beverage brewed in the cavity downwardly towards the insert 35. As noted above, the insert 35 has a foraminous area, thereby allowing the passage of brewed beverage there through. A similar seal 424 is provided on the insert so

as to engage a corresponding surface 426 of the wall 33. This seal 424 also helps reduce or prevent the passage of liquid or brewing substance around the insert. Rather, the brewed beverage must flow through the filter material 428 carried on the insert 35. Generally, the filter material 428 is supported by a structure 430 attached to the blade 39. The filter material 428 prevents the passage of undesirable particles of the brewing substance into the brewed beverage which is dispensed from the nozzle 74.

[0052] As shown in FIGS. 13, 14 and 15, the cover 404 includes a handle 432 attached to the rim 420. The handle 432 is generally of a low profile design thereby allowing for a gripping structure, yet not intruding or interfering with the operation of the holder 30 when inserted into the brewer 20. Various forms of the handle may be provided such as one which is integrally formed with the rim 420. Additionally, the handle 432 provides additional structure to reinforce the overall structure of the cover 404.

[0053] The insert 35 may include, by way of example but not limitation, the mesh and structure as shown herein or may be formed of the mesh and structure as shown in United States Patent No. 5,292,437, issued to the assignee of the present invention. The disclosure in teachings of United States Patent No. 5,292,437 is incorporated herein by reference in its entirety.

[0054] In use, the reusable container structures including the cover 404 and the insert 35 can be provided with a brewer as shown in FIG. 1. While the structures 404, 35 can be the primary devices which are used in the brewing process, they can be provided as an accessory as well. In this regard, the brewer can be provided for use with prepackaged pods. Such pods may be supported by the insert 35 as shown herein or as shown in the related U.S. Provisional Application No. 60/575,235. This can be used as a retrofit or accessory kit with the brewer. The reusable container structures 404, 35 allow a user increased choices in preparing coffee by allowing the user to install the insert 35, place a desired quantity of brewing substance 408 into the cavity and then placing the cover 404 there over. The user can use a relatively large or smaller charge of coffee and can control the type of grind and coffee used in the brewer. Additionally, there may be economic benefits to using loose coffee instead of prepackaged single serving pods. The cover 404 can be provided in a hinged configuration such that the hinge is attached to the holder 30 and the cover 404. This would allow the hinged structure to be retained on the holder 30. The hinged structure may

be configured such that it pivots out of the way for use with pods and pivots into place for use with loose coffee.

[0055] FIGS. 16 and 17 show another embodiment of a reusable infusion container 502. This embodiment of the reusable infusion container includes a two part construction, including a cover 504 and a base 535. The base may include a flange or seal 524 for engaging the inside surface 426 of the wall 33. Similarly, a seal or flange 522 may be provided on the cover 504 to engage the rim 36 of the wall 33. The cover and base 504, 535 define a cavity 506 therein for retaining brewing substance 408. Brewing substance is placed in the cavity 506 and the cover is placed there over. The cavity can be partially filled or filled to the rim, such that positioning of the cover 504 there over strikes or levels the brewing substance 408 retained in the cavity 506. The user can determine the degree of compaction of brewing substance 408 in the cavity 506. Mesh material 512 is provided on the cover 504. A similar mesh structure or material such as is used on the insert 35 as shown in FIG. 13 is provided in the base 535.

[0056] As also shown in FIG. 16, the structure of the base or cover 535, 504 can be configured with a ratcheting or other engaging structure shown generally herein as reference number 560. An embodiment of such an engaging structure 560 may include threads 562 and ratchet portions 564. The threads allow the cover 504 to be engaged with a portion of the base 535 in a positive manner. The ratchet points 564 engage corresponding ratchet points on the cover. The threads and ratchet points provide positive engagement as well as a sensory feedback to indicate the degree of engagement or compaction of the brewing substance retained between the cover 504 and base 535. For example, the base 535 can be filled with a brewing substance which, generally is placed in a loose, uncompacted state. Placement of the cover 504 over the base facilitates engagement of the cooperative threads on the corresponding portions of the cover and base. Rotation of the cover relative to the base further engages the threads whereupon the ratchet structures 564 are encountered. By way of example but not limitation, first engagement or clicking of a first ratchet structure indicates compaction level 1. Further rotation and clicking or engagement of the ratchet structures indicates further compaction. As such, a user can repeatably control dose by using a measuring spoon to place a desired quantity of brewing substance within the base 535. The user can also repeatedly control the degree of compaction of the brewing substance by use of

the engaging structures 560. As such, these features of the container 502 adds greater control in the use of the reusable container 502.

[0057] The reusable container 502 as shown in FIGS. 16 and 17 operates in a similar principle to that as shown in the previous figures. The container may be provided as an accessory to the brewer 20 or as an additional purchase part or retrofit kit. The container 502 can be sized and dimensioned for use with any variety of brewers which might otherwise use single serving disposable pods. The reusable container allows greater control in the brewing of beverages, possible cost savings as well as positive environmental effects by not placing additional materials which might otherwise be provided in a reusable form.

[0058] As shown in FIG. 17, the container 502 is placed in the cavity holder. The holder can then be installed in the brewer for subsequent brewing operations. Once the brewing operation has been completed the drawer 30 is removed from the brewer 20 and the holder 502 can be removed from the holder 30. The cover 504 is separated from the base 535 for rinsing or otherwise removing the spent brewing substance 408. The cover 504 and base 535 may be formed of any suitable material including plastics, metallic materials, glass, composite materials, suitable flexible materials such as sanitation-approved cooking silicones and other similar materials as well as other materials not here listed. The general concept is to provide a two part reusable container which can be filled with the brewing substance and then placed in the holder 30.

[0059] In use, the container 502 is filled with a brewing substance to a desired level and compaction. The container 502 is placed in the holder 30 whereupon the holder is engaged with the brewer 20. During a brewing cycle, brew water flows through the upper mesh or other foraminous structure 512 and through the brewing substance retained in the container 502. Brewed beverage flows outwardly from an open or otherwise foraminous area of the base 535 and through the holder 30 for subsequent dispensing into a container such as a cup 28. After use, the container 502 is removed from the holder 30 for subsequent removable of spent brewing substance and, if desirable, cleaning of the holder parts 504, 535.

[0060] A further embodiment of a reusable infusion container 602 is shown in FIGS. 18 and 19. FIG. 18 shows the reusable container 602, having a base 635 and a cover 604. In this embodiment, the cover 604 is attached to the base 635 by a hinge 650. Additionally, a closure or clasp structure 652 is retained on either the cover 604 or base 635. A rim portion

620 retains a structure or other foraminous material 612. In the embodiment as shown as FIG. 18, the mesh material is formed in a generally arcuate or partially spherical shape so as to help define a cavity between the base 635 and the cover 604. While the cover need not be provided with a similar arcuate structure, it should include at least a partially foraminous or otherwise mesh area 612. Generally, a rim 620 is provided on the cover 604 to retain the foraminous material 612 there between. A seal may be provided under the rim 620 of the base 635 so as to engage the internal surfaces of the cavity of the holder 30.

[0061] In use, the reusable container 602 is opened by disengaging the clasp 652 from the rim portions of the cover 604 and the base 635. The cover 604 can then be removed from the base to allow the placement of brewing substance therein. Once a desired quantity of brewing substance has been placed in the base 635, a cover 604 is placed there over with the clasp 652 positioned to engage the rims 620. The closed and retained container 602 can then be placed in the cavity of the holder 30 as shown in FIG. 19. The holder 30 can then be engaged with the brewer 24 commencing a brewing operation. At the end of a brewing operation, the container 602 can be removed from the holder 30 to allow opening of and cleaning of the container. Spent brewing substance can then be removed from the container and subsequent cleaning or other steps can occur to the container 602. As noted above with regard to the other embodiments, the container 602 can be provided with the brewer 20 as the primary brewing substance holder or as an accessory or retrofit kit for use with this or other brewers. Of course, the container 602 will be sized and dimensioned for an appropriate brewer. It is possible that any of the containers disclosed herein can be sized and dimensioned such that a single reusable container can be used across a variety of single cup brewers which might otherwise use disposable single serving pod products.

[0062] In use, the beverage maker is employed with a refillable or reusable substance container as well as a selectively fillable substance container. The steps involved in this process include providing an infusion container. The infusion container is then filled with a suitable beverage making substance. The infusion container is placed in a corresponding beverage maker and employed during a brewing cycle to produce a desired beverage. At the conclusion of the brewing cycle, the infusion container can be removed and disposed of or cleansed for reuse.

[0063] While embodiments have been illustrated and described in the drawings and foregoing description, such illustrations and descriptions are considered to be exemplary and not restrictive in character, it being understood that only illustrative embodiments have been shown and described and that all changes and modifications that come within the spirit of the invention are desired to be protected. The applicants have provided description and figures which are intended as illustrations of embodiments of the disclosure, and are not intended to be construed as containing or implying limitation of the disclosure to those embodiments. There are a plurality of advantages of the present disclosure arising from various features set forth in the description. It will be noted that alternative embodiments of the disclosure may not include all of the features described yet still benefit from at least some of the advantages of such features. Those of ordinary skill in the art may readily devise their own implementations of the disclosure and associated methods, without undue experimentation, that incorporate one or more of the features of the disclosure and fall within the spirit and scope of the present disclosure.

CLAIMS:

1. A beverage maker using a reusable infusion container for making a beverage.
2. A reusable infusion container for use with a beverage maker.
3. A beverage maker using a selectively fillable infusion container.
4. A selectively fillable infusion chamber.
5. A method of making a beverage using a reusable infusion chamber.
6. A method of making a beverage using a selectively fillable infusion container.

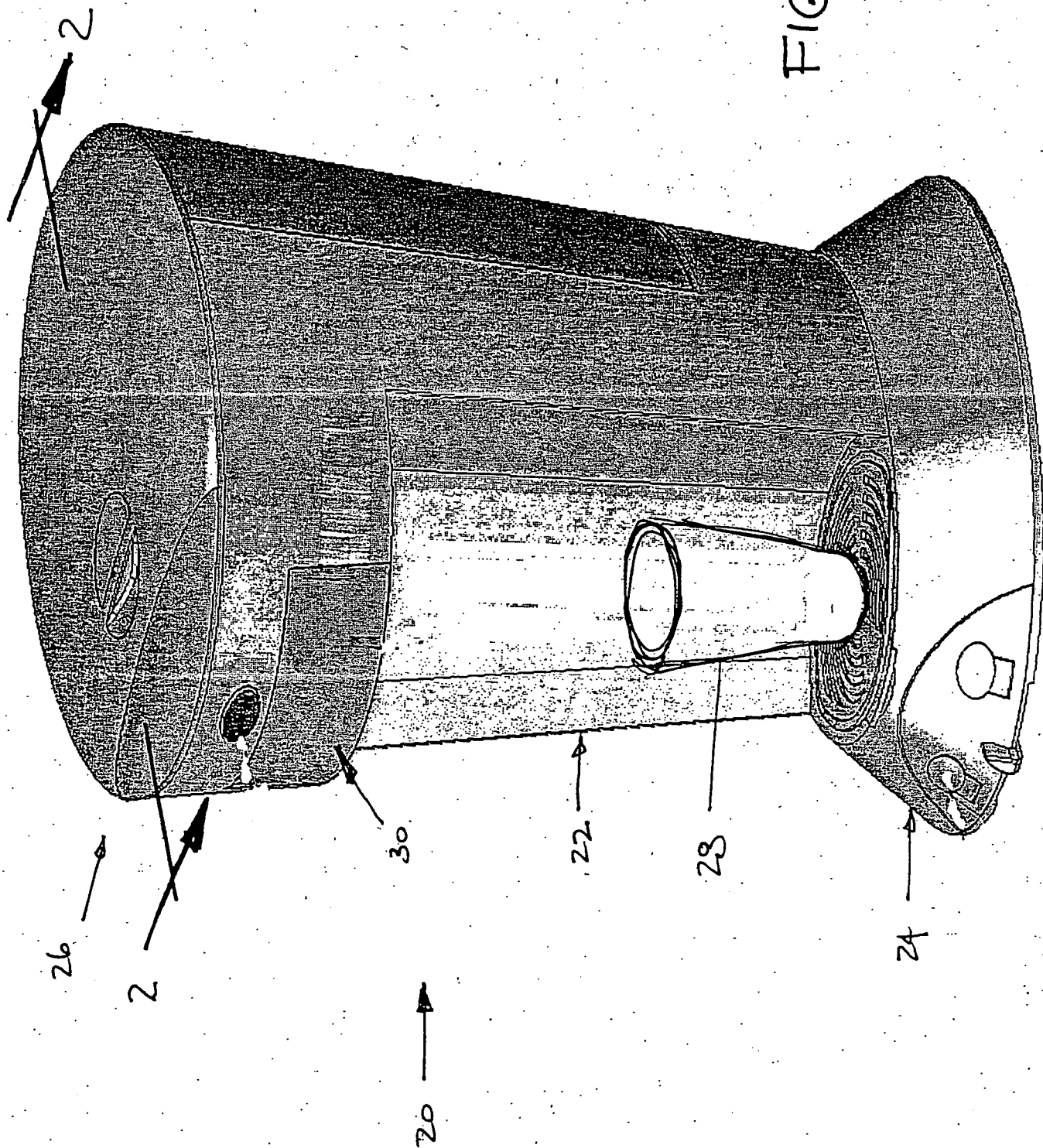


FIG. 1

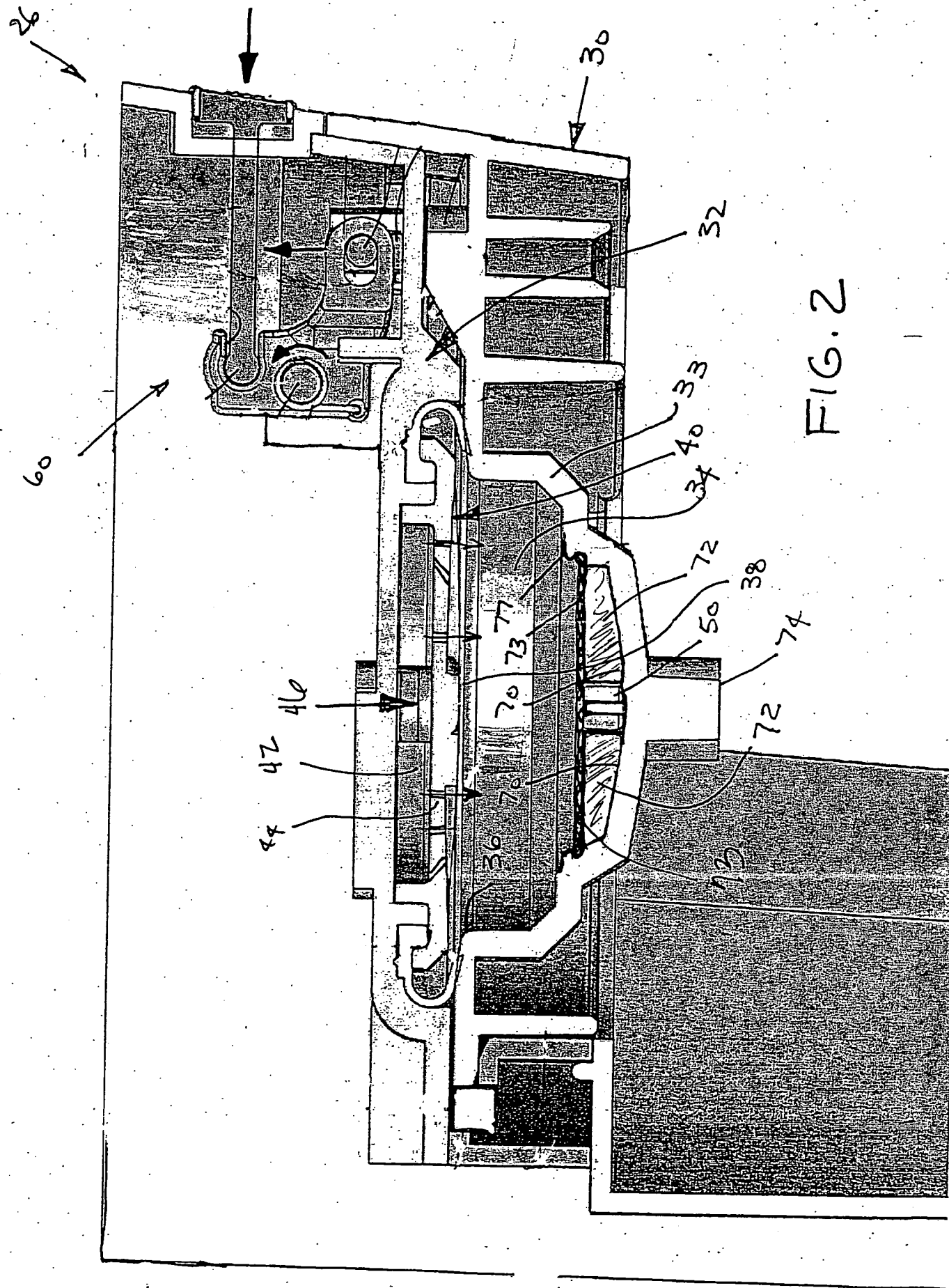


FIG. 2

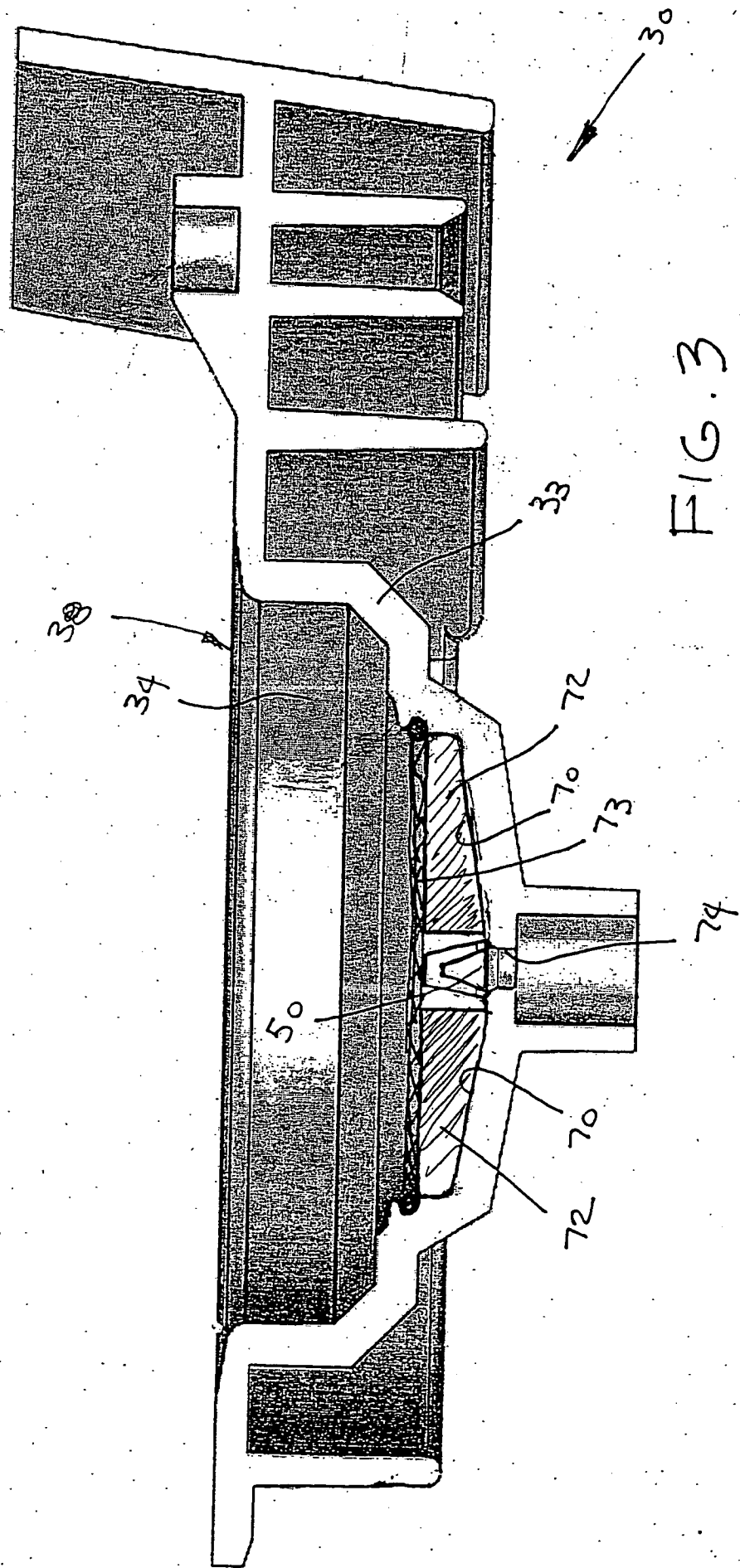
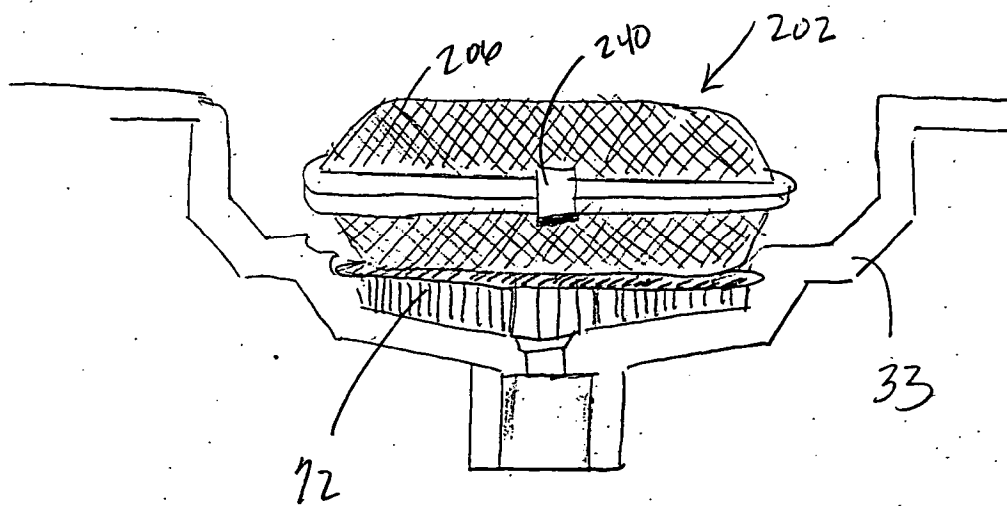
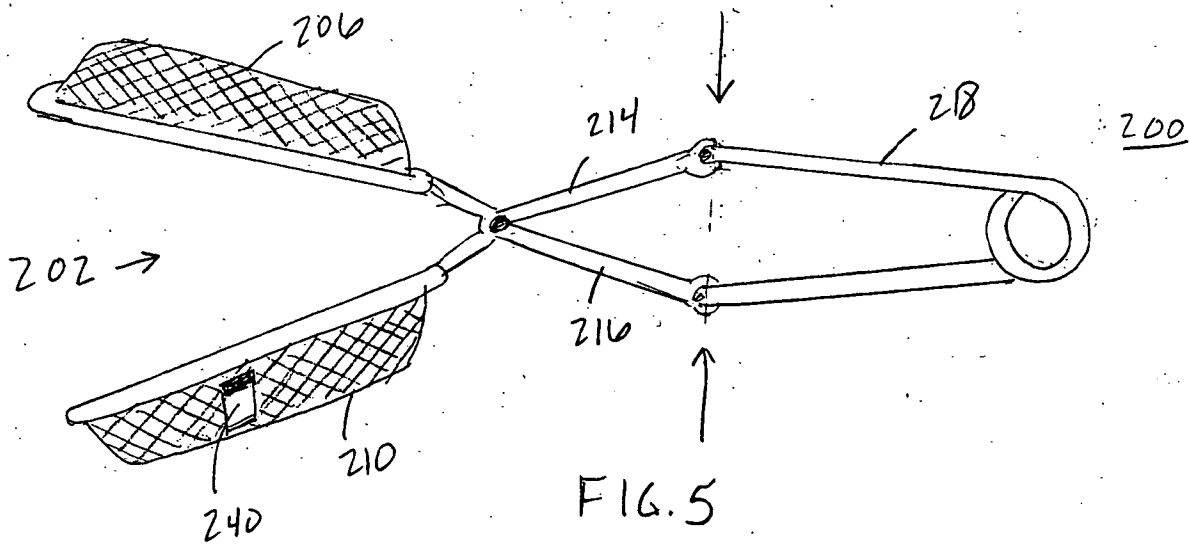
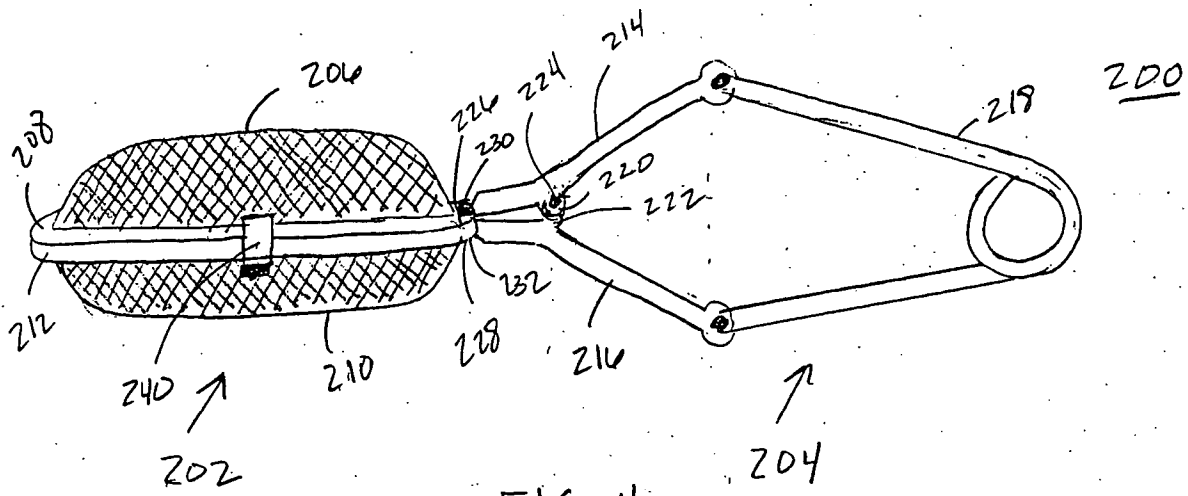


FIG. 3



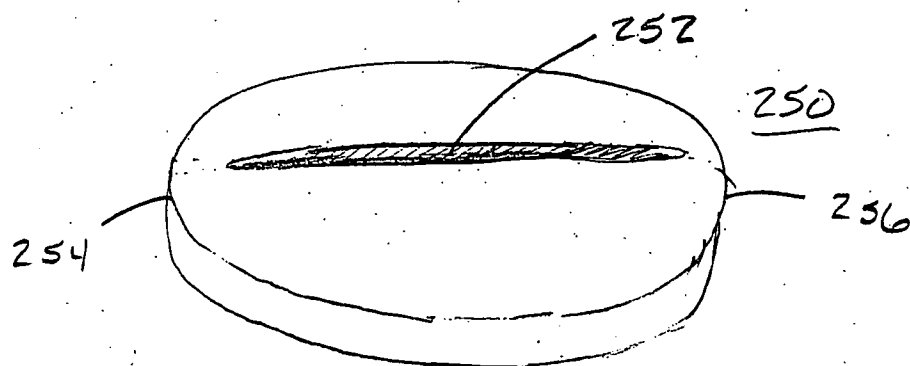


FIG. 7

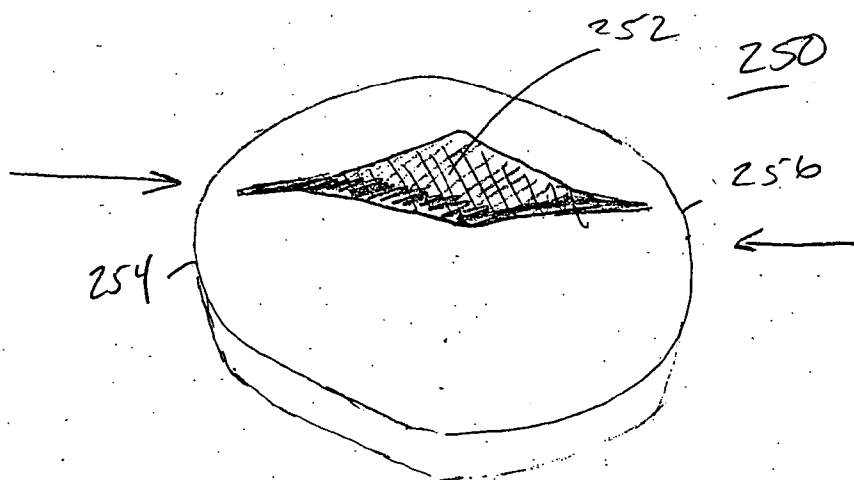


FIG. 8

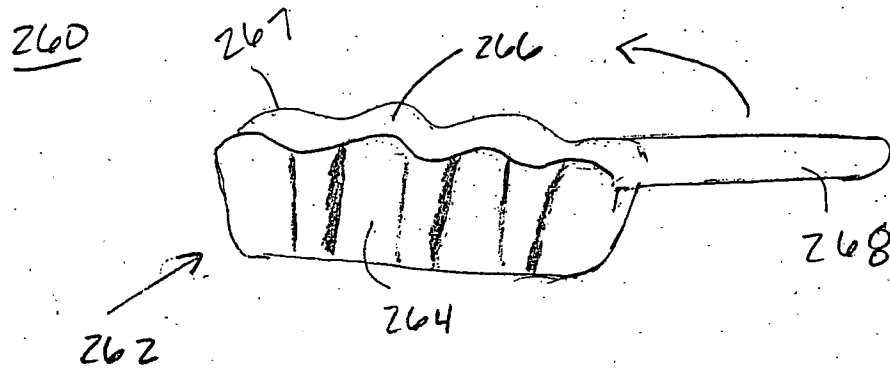


FIG. 9

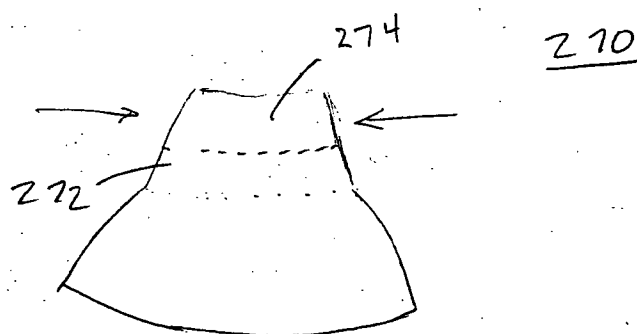


FIG. 10

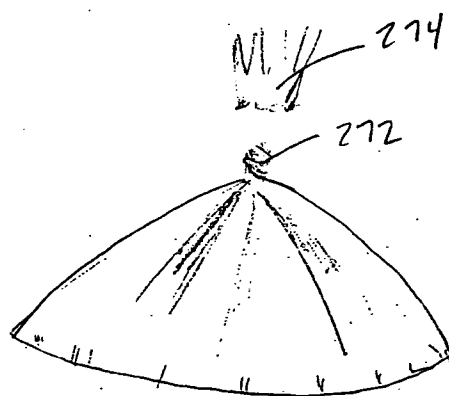


FIG. 11

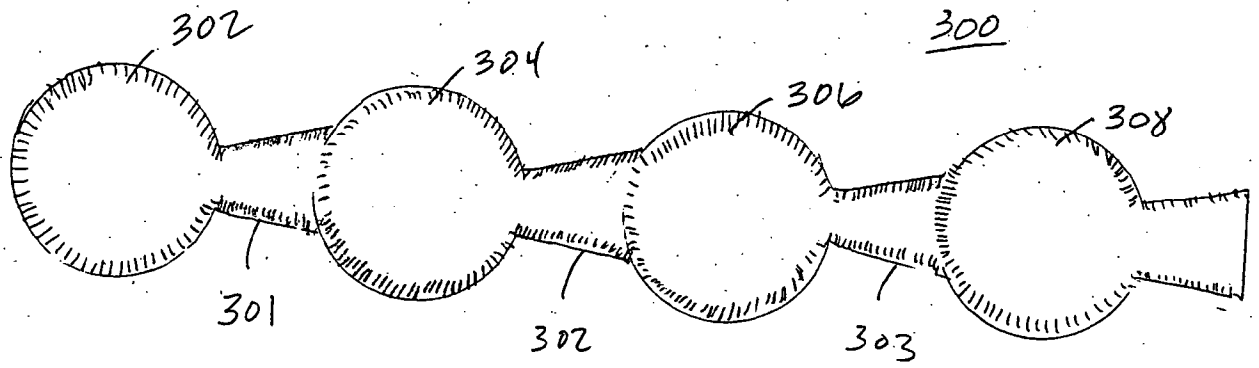
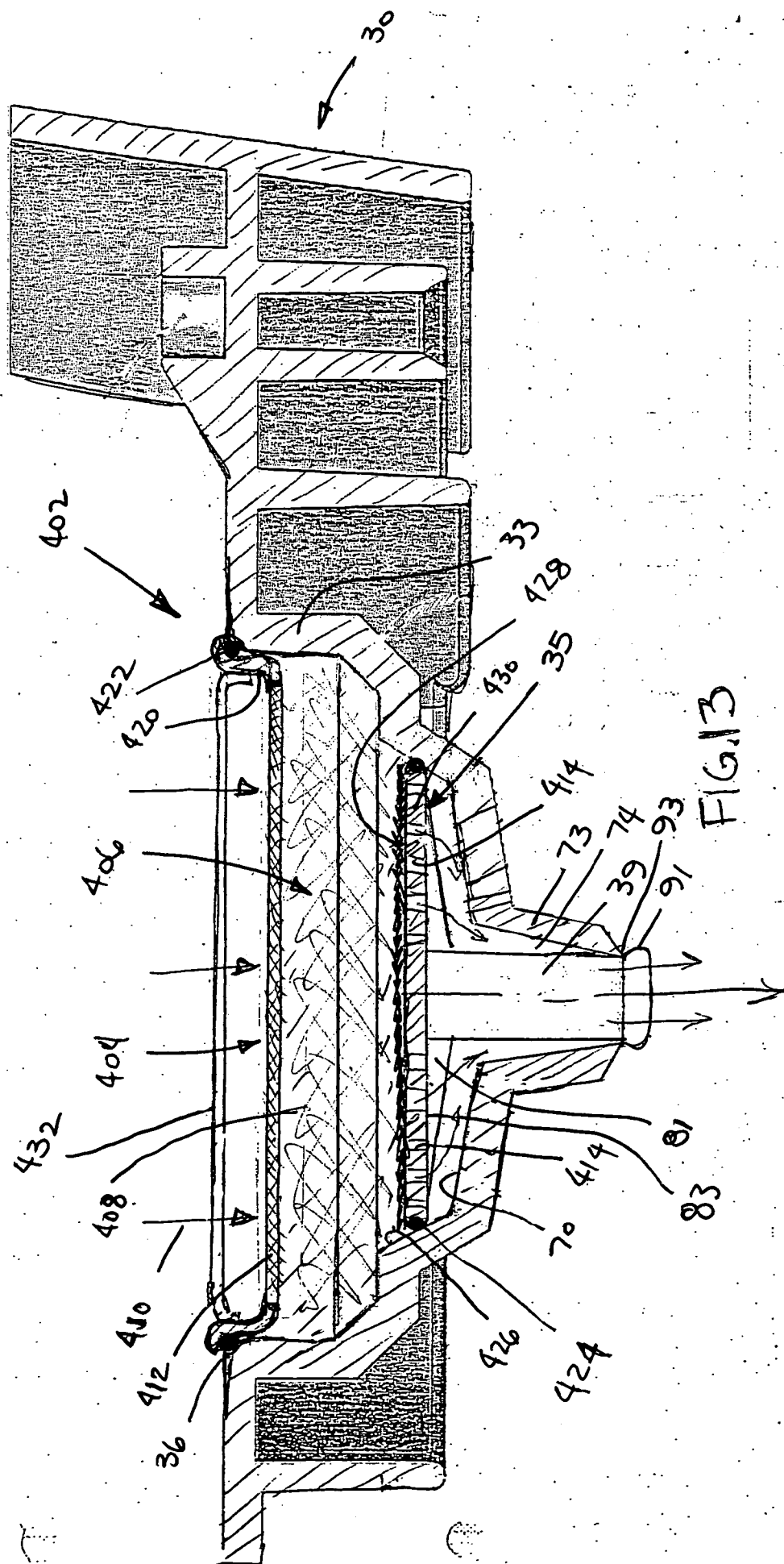


FIG. 12



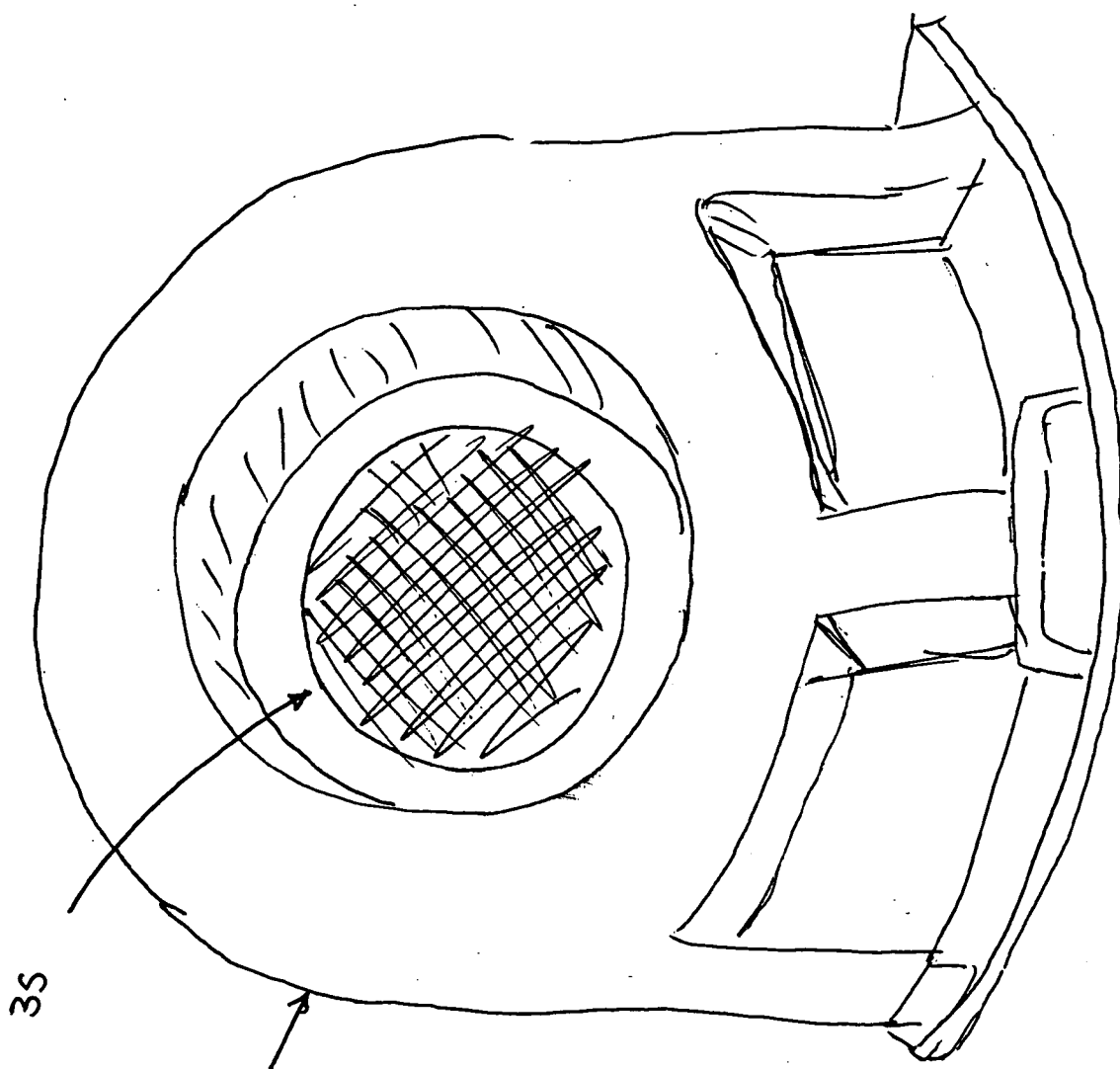
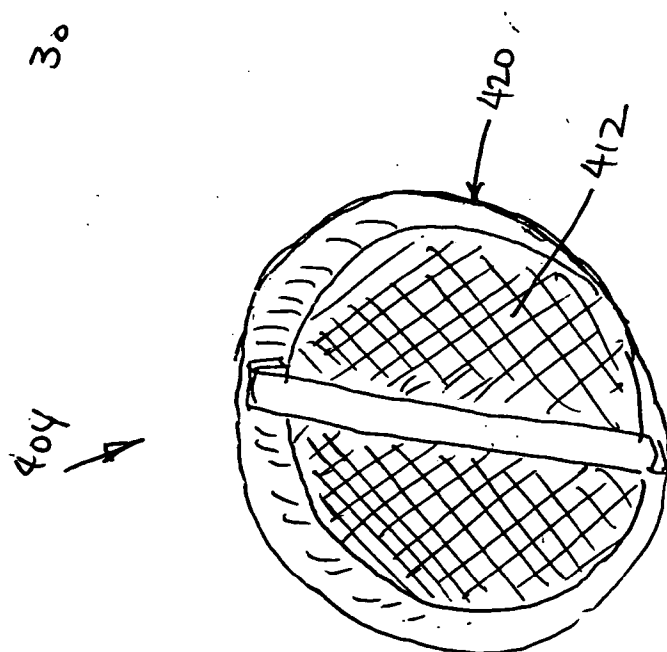


FIG. 14



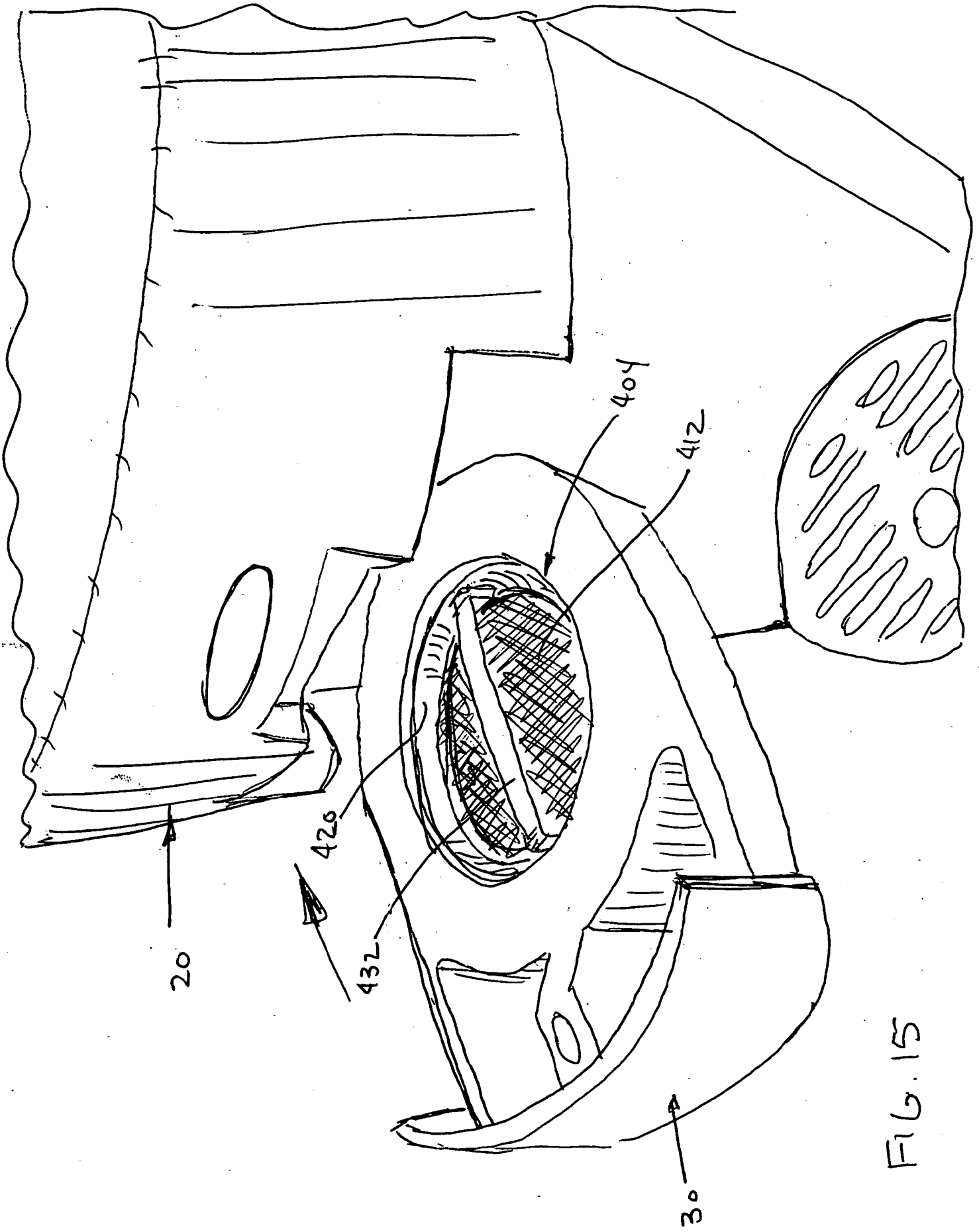


FIG. 15

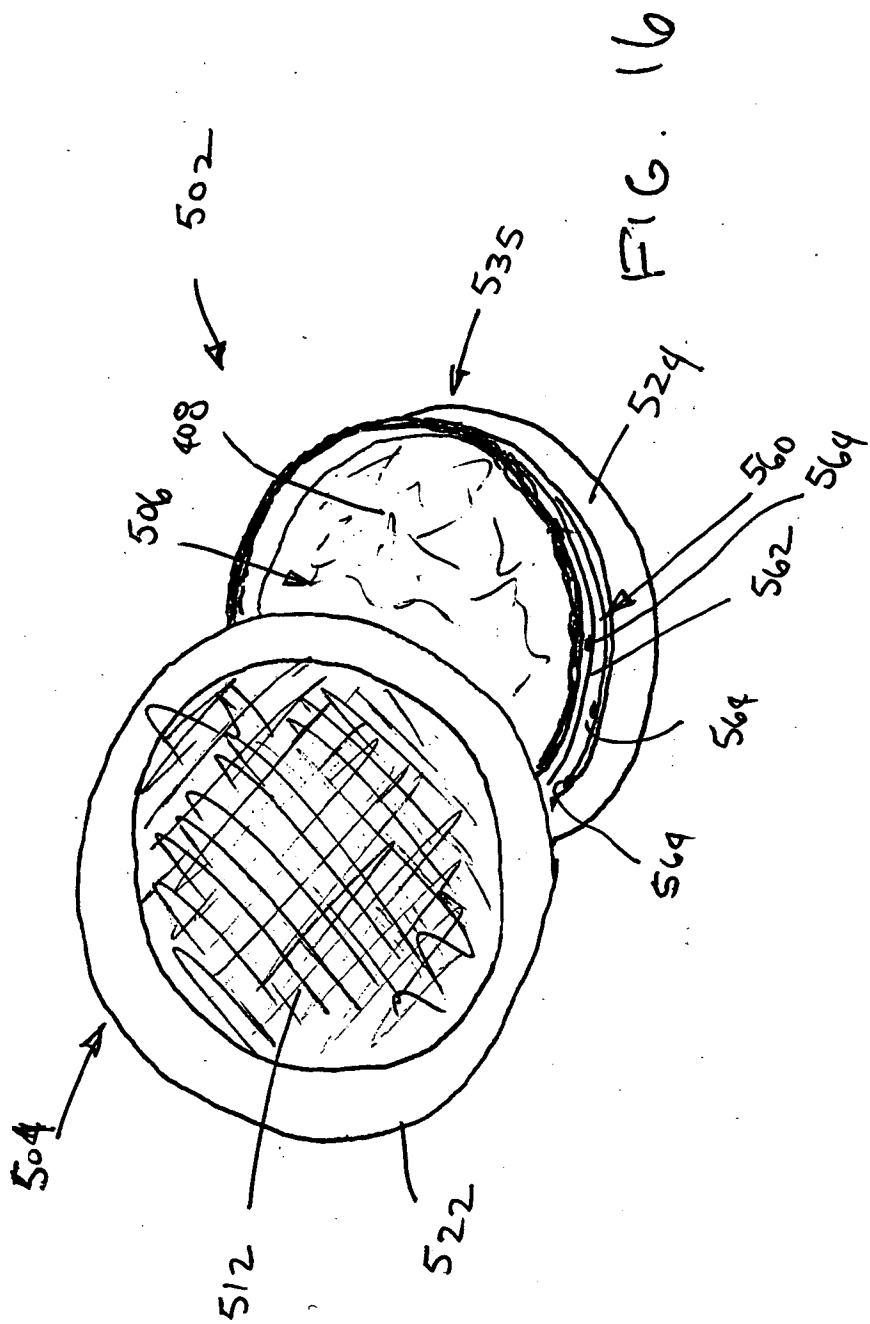


FIG. 16

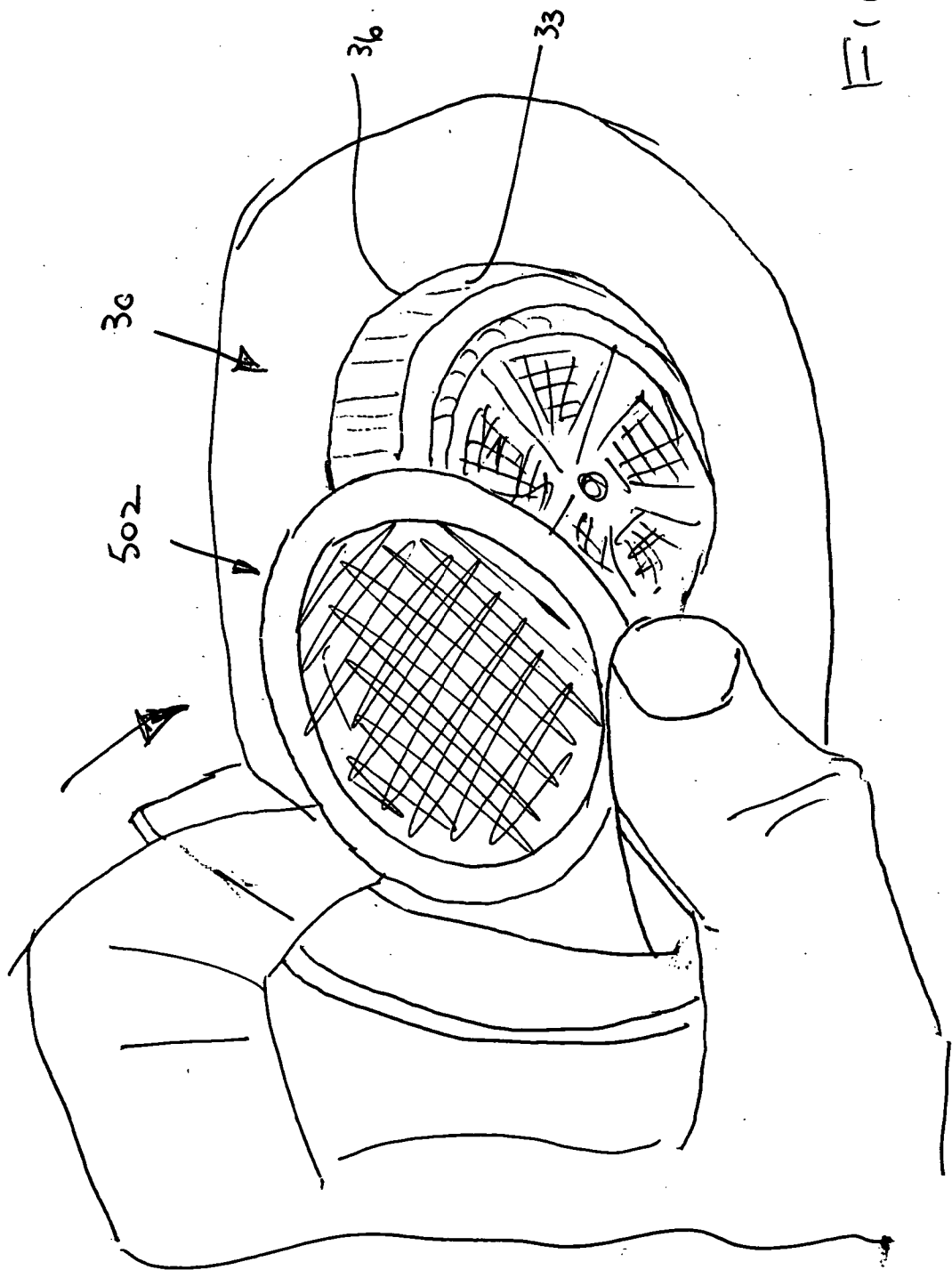


FIG. 17

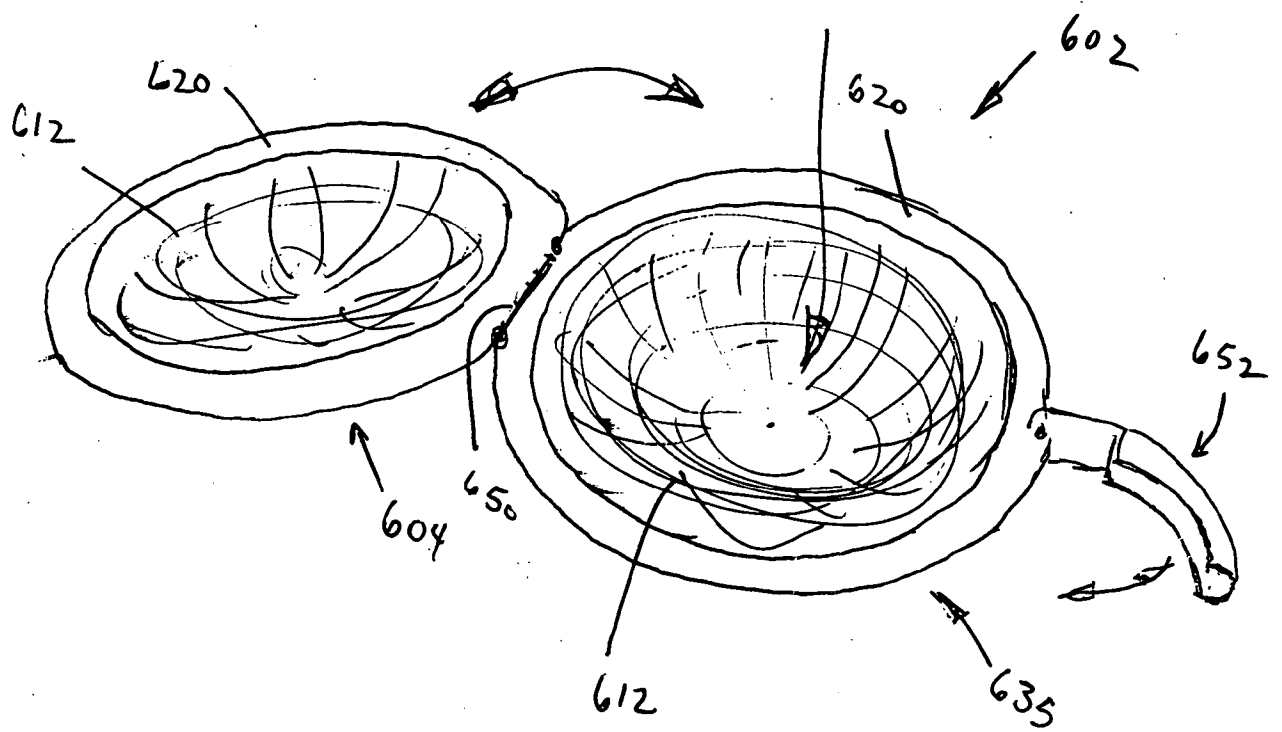


FIG. 18

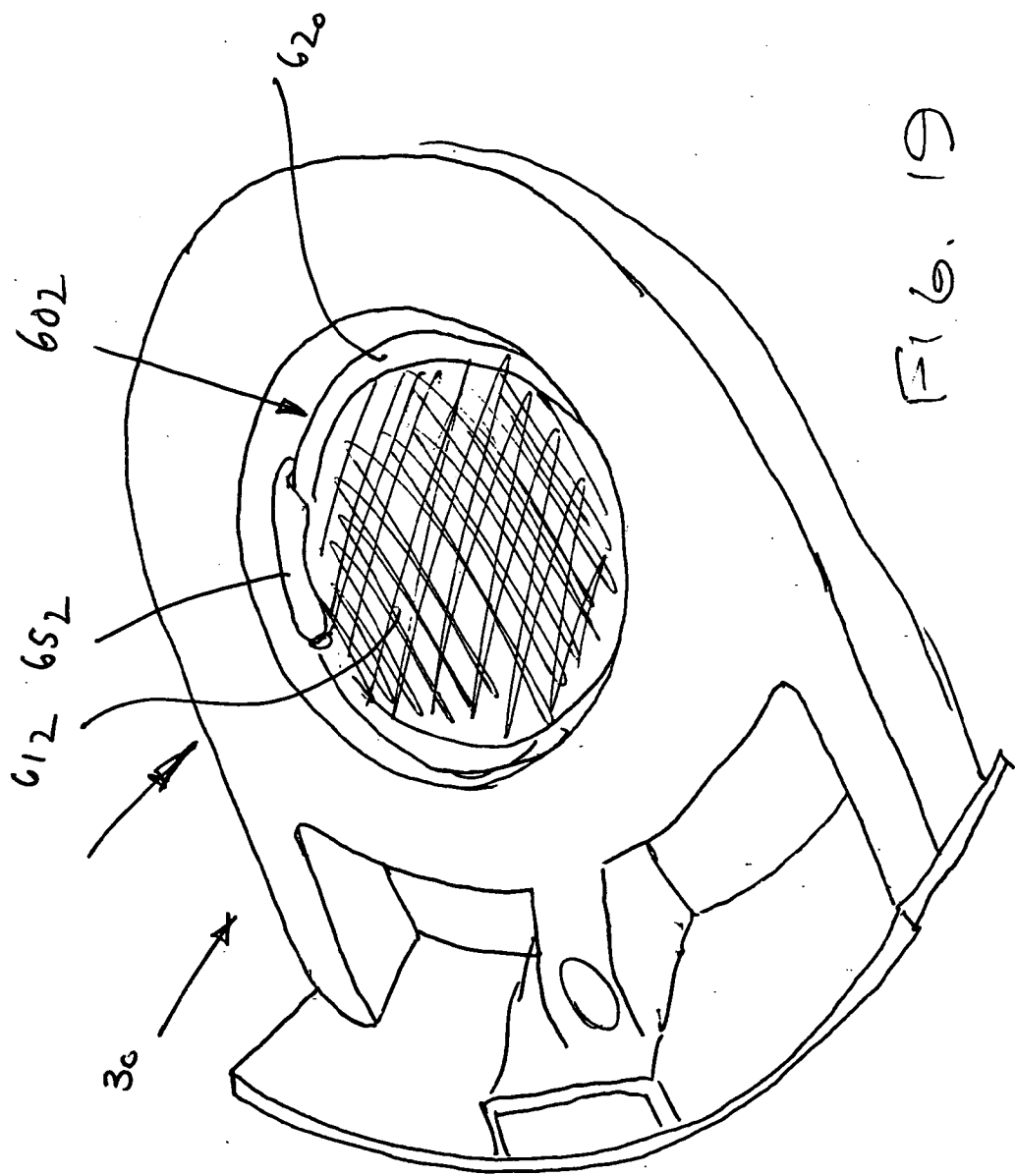


FIG. 19

PTO/SB/01 (08-03)

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**DECLARATION FOR UTILITY OR
DESIGN
PATENT APPLICATION
(37 CFR 1.63)**Declaration
Submitted
With Initial
Filing

OR

Declaration
Submitted after Initial
Filing (surcharge
(37 CFR 1.16 (e))
required)

Attorney Docket Number

27728/97275

First Named Inventor

John D. Bishop

COMPLETE IF KNOWN

Application Number

Filing Date

Art Unit

Examiner Name

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**A BEVERAGE MAKING APPARATUS AND METHOD USING LOOSE BEVERAGE
SUBSTANCE**

(Title of the Invention)

the specification of which



is attached hereto

OR



was filed on (MM/DD/YYYY)

as United States Application Number or PCT International

Application Number

and was amended on (MM/DD/YYYY)

(If applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				Yes	No
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

(Page 1 of 2)

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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City		State	ZIP
Country	Telephone	Fax	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.			
NAME OF SOLE OR FIRST INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
John D.		Bishop	
Inventor's Signature <i>J.D. Bishop</i>		Date <i>8/27/04</i>	
Residence: City	State	Country	Citizenship
Decatur	IL	USA	USA
Mailing Address 120 Phillips Drive			
City	State	ZIP	Country
Decatur	IL	62521	USA
NAME OF SECOND INVENTOR:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Randy D.		Pope	
Inventor's Signature <i>Randy D. Pope</i>		Date <i>08/30/04</i>	
Residence: City	State	Country	Citizenship
Edinburg	IL	USA	USA
Mailing Address 212 Douglas, P.O. Box 381			
City	State	ZIP	Country
Edinburg	IL	62531	USA
<input type="checkbox"/> Additional inventors or a legal representative are being named on the supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.			

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DECLARATION	ADDITIONAL INVENTOR(S) Supplemental Sheet
Page <u>3</u> of <u>3</u>	

Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Christopher W.		Rahn	
Inventor's Signature <i>Christopher W. Rahn</i>		Date <i>8-31-04</i>	
Virden Residence: City	IL State	USA Country	USA Citizenship
207 West Loud Mailing Address			
Mailing Address			
Virden City	IL State	62600 Zip	USA Country
Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Inventor's Signature		Date	
Residence: City	State	Country	Citizenship
Mailing Address			
Mailing Address			
City	State	Zip	Country
Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Inventor's Signature		Date	
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PATENT/DOCKET NO. 27726/97275
CUSTOMER NO. 23644

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Arthur H. Bunn, *et al.*)
)
)
Serial No.: Not yet assigned)
) Group Art Unit:
Filed:)
)
Title: A BEVERAGE MAKING) Examiner:
APPARATUS AND METHOD USING)
LOOSE BEVERAGE SUBSTANCE)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**POWER OF ATTORNEY FOR
PATENT APPLICATION**

Bunn-O-Matic Corporation, a Delaware corporation having principal offices at:

**Bunn-O-Matic Corporation
1400 Stevenson Drive
Springfield, Illinois 62703 United States**

the owner by assignment of the entire right, title and interest to the invention for "A BEVERAGE MAKING APPARATUS AND METHOD USING LOOSE BEVERAGE SUBSTANCE" and in and to the application for patent and any Letters Patent, whether domestic or foreign, that may issue thereon, by virtue of the assignment (check as applicable)

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hereby appoints the attorneys and/or agents associated with Customer Number 23644 to prosecute this application and transact all business in the Patent and Trademark Office connected therewith as its attorneys with full power of substitution and revocation, to prosecute all domestic and foreign patent applications, including PCT and EPO filings, relating to said invention and to transact all business connected therewith, including signing of all papers on its behalf and making alterations and amendments.

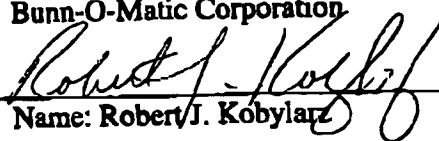
All communication regarding this application should be directed to: Grant H. Peters, 312-357-1313.

The undersigned is the representative for the Assignee of the entire right, title and interest in the patent application identified above, and is authorized to act on behalf of the Assignee.

8/31/04

Date:

Bunn-O-Matic Corporation



Name: Robert J. Kobylarz

Title: Vice President,
Engineering and Product Development